DOMANEVSKIY, Nikolay Alekseyevich; GOLOVUSHKIN, N.G., retsenzent;
SHAROV, I.M., retsenzent; SKOROSHCHINSKIY, V.F., red.;
FILIMONOVA, A.I., red.

[Dredging] Dnouglublenie. Moskva, Transport, 1965. 339 p.
(MIRA 18:12)

MEZENTSEV, O.K.; RATNIKOV, V.M.; SKOROSPELKIN, S.A.

Statistical treatment of the data of geochemical prospecting.
Razved. i okh. nedr 30 no.10:10-15 O '64.   (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya, Moskva (for Mezentsev, Ratnikov). 2. Gosudarstvennyy
geologicheskiy komitet SSSR (for Skorospelkin).

Skorospelov, D.

USSR/ Electronics - Radio combination

Card 1/1   Pub. 89 - 28/30

Authors   : Ganzburg, M., and Skorospelov, D.

Title   : Homemade combined radio and phonograph sets

Periodical : Radio 3, 59 - 61, Mar 1955

Abstract   : The schematic drawing is given of the circuit of a homemade combined radio
               and phonograph set. Directions are also given for constructing the set,
               most of the parts of which are factory-made but many of which are also
               made at home. The method of tuning is also explained. Illustrations;
               drawing; table.

Institution : .....

Submitted   : .....

SKCRÖ3PЕ́Ü 0

107-5-19/54

AUTHOR: Ganzburg, M. and Skorospelov, D.

TITLE: A Simple Superheterodyne (Prostoy supergeterodin)

PERIODICAL: Radio, 1956, Nr5, pp. 17-19 (USSR)

ABSTRACT: A selfmade superhet radio receiver is described. It has two bands: 150 to
            415 kc and 520 to 1.600 kc. Sensitivity at any point is better than 150 μv,
            selectivity 20 db or higher. Nonlinear distortion factor is under 10% at
            0.5 w output. A-f pass band of the overall receiver is 100 to 4.000 c with
            5 db irregularity. Sensitivity at the pickup jacks 200 mv, background
            level 26 db. Power consumption 20 w. Bantam tubes. Pentode grounded-plate
            oscillator. Semiconductor-type two-diode rectifier.

            Description of all parts and how to make them with very limited facilities
            is given; also the schematic, parts, and assembly views. Tube types used:
            6А2П, 6К4П, 6Ж3П, 6П1П .

            There are 6 figures and one table in the article.

AVAILABLE: Library of Congress.

Card 1/1

BUKHARTSEV, V.P.; SKOROSPELOVA, T.P.; STROYEVA, Ye.A.; USTINOVA, Z.S.

Morphology of lithofacies replacement in the middle Devonian of
the eastern part of the Russian Platform. Dokl. AN SSSR
139 no.5:1177-1180 Ag '61.   (MIRA 14:8)

1. Institut geologii i razrabotki goryuchikh iskopayemykh
AN SSSR. Predstavleno akademikom A.A. Trofimukom.
        (Russian Platform—Geology, Structural)

KULAKOVA, R.Ye., kand.tekhn.nauk; MIRZOYEV, A.G., inzh.; SKOROSPELOVA, Ye.V.,
    inzh.

Power cables with plyethylene insulation for 10 kv. voltage. Vest.
elektroprom. 31 no.3:41-45 Mr '60.   (MIRA 13:6)
        (Electric insulators and insulation)
        (Electric cables)

PROCESSES AND PROPERTIES INDEX

Ca

Apparatus for flushing scrubbers. A. I. Skorospeshkin
Russ. 47,401, June 30, 1936. Construction details.

METALLURGICAL LITERATURE CLASSIFICATION

SOV/144-58-12-6/19

AUTHOR: Skorospeshkin, A.I., Aspirant

TITLE: The Reaction of Commutation Currents in Transverse-Field Dynamoelectric Amplifiers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1958, Nr 12, pp 47-51 (USSR)

ABSTRACT: In d.c. machines under normal conditions of operation the magnetic effects of commutation currents are only significant under transient conditions. In transverse field rotating amplifiers the commutation currents (c.c.) have a delaying action and also oppose the flux from the control winding. A number of methods have been proposed for calculating reaction effects. That due to Epshteyn is much used but it is laborious and introduces a 'brush overlap coefficient' (Ref 3) which describes commutation incorrectly. M.M. Tarashchanskiy (Ref 4) represents the current in the commutated sector as the sum of recti-linear and auxiliary components. Only the latter cause reaction effects and the estimate is not accurate enough. V.I. Radin (Ref 5) calculates the magnetizing force of the c.c. on the assumption that the resistances of the leading and trailing edges of the brush contact are equal and constant, but the accuracy is no better than with

Card
1/3

SOV/144-58-12-6/19

The Reaction of Commutation Currents in Transverse-Field Dynamoelectric Amplifiers

Epshteyn. The process of commutation is most truly represented by the method due to M.S. Mikhaylov-Mikulinskiy (Ref 8). The commutating circuit is represented by an equivalent network and the auxiliary currents are found by a superposition method. The formulae for these currents in the EMU-5P and EMU-12A amplifiers are respectively Eqs (1) and (2), where e_z is the resultant e.m.f. of the commutating sector, R is the transfer resistance when the brush width and collector pitch are equal. The magnetizing force of the c.c. is Eq (3), where w_k is the number of turns in the commutating sector. Table 1 compares the results of the four methods of calculation with experimental values obtained by M.I. Alyab'yev's method (Ref 7). The agreement is poor. It is therefore proposed to represent the auxiliary current by a sinusoid, as in Fig 1. Since the 'brush overlap coefficient', β, usually lies between 1 and 2 commutation must occur partly in one sector and partly in two. In the latter case the resulting current

Card 2/3 can be found from the vector diagram of Fig 2, where the

SOV/144-58-12-6/19

The Reaction of Commutation Currents in Transverse-Field
Dynamoelectric Amplifiers

shift angle is Eq (6). The demagnetizing force varies
between two limits and the average value is Eq (10), or
in terms of the branching coefficient K (Fig 3),
Eq (12). Table 2 compares calculations by this formula
with experimental results (obtained as before) for three
different machines under two conditions of operation.
The agreement is very satisfactory. The magnitude of the
auxiliary current was calculated from a formula, Eq (11),
due to Arnold (Ref 10).
There are 3 figures, 2 tables and 10 Soviet references.

ASSOCIATION: Kafedra elektricheskikh mashin, Tomskiy politekhniches-
kiy institut (Chair of Electrical Machines, Tomsk
Card 3/3   Polytechnical Institute)

SUBMITTED: December 16, 1958

SOV/144-59-2-8/19

AUTHOR: ·Skorospeshkin, A.I., Aspirant

TITLE: On the Commutation of Small DC Machines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika,
             1959, Nr 2, pp 73 - 75 (USSR)

ABSTRACT: A study was made of commutation, with particular reference
           to amplidynes, taking the transient brush contact resistance
           to be a function of current. Using the equivalent circuit
           of Figure 1, expression (1) gives the differential equation
           of the current in the commutating section, where r_1 and
           r_2 are the transient resistances of the leading and
           trailing parts of the brush. In formulating the equation
           it is assumed that the brush is the same width as the
           commutator bars and that there is no commutating e.m.f.
           In this equation the two transient resistances are taken
           as functions of current density. An experimental curve of
           transient brush contact resistance as a function of current
           density for a brush grade EG-8, used in amplidynes, is
           plotted in Figure 2; it is a straight line. The values

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On the Commutation of Small DC Machines$^{SOV/144-59-2-8/19}$

of r_1 and r_2 required in Eq (1) can be obtained from this curve using Eqs (2), (3) and (4). The current densities are given by Eq (5). Eqs (5) and (4) are then substituted into expression (1) to give the non-linear differential Eq (6). This equation is solved by the method of successive intervals.

Curves calculated in this way are compared with oscillograms for two different experimental cases in Figures 3a and b. In both cases the good agreement between the experimental and the theoretical curves shows that the transient resistance of the brush contact considered as a function of current density has an important influence on the changes in current in the commutating section and so should not be neglected.

There are 3 figures and 6 Soviet references.

Card 2/3

SOV/144-59-2-8/19

On the Commutation of Small DC Machines

ASSOCIATION: Kafedra elektricheskikh mashin, Tomskiy
        politekhnicheskiy institut (Chair of Electrical
        Machinery, Tomsk Polytechnical Institute)

SUBMITTED: May 5, 1958

Card 3/3

AUTHOR: Skorospeshkin, Aleksey Ivanovich, aspirant   59-6-8/15

TITLE: The Commutation of Cross-field Amplidynes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 6, pp 66 - 70 (USSR)

ABSTRACT: A study was made of commutation in a cross-field amplidyne, making allowance for the non-linear relationship between the transient resistance of the brush contact and the current density. It is shown that the work of Tur, published in Elektrichestvo, 1956, Nr 11 and relating to a normal DC machine is not applicable. Accordingly the equivalent circuit of Figure 1 was used, which introduces the transient resistance of the brush contact directly.
Eq (1) is the differential equation that describes the change of current in the commutating circuit. In formulating this equation it is assumed that there is no commutating e.m.f. and that the brush width is equal to the commutator-bar pitch. An experimental curve of the transient resistance of a brush contact as a function of current density for brushes grade EG-8 used in a cross-field amplidyne is given in Figure 2. This curve may be

Card1/3

The Commutation of Cross-field Amplidynes

approximately represented by the exponential equation (2).
It should be noted that because of manufacturing variations
the transient resistance of this grade of brush as a
function of current may sometimes be exponential and some-
times linear.
Various subsidiary equations that are required are derived
and are substituted in Eq (1) to give Eq (5). The latter
was solved for a particular case by the method of successive
integration to give Curve 1 of Figure 3. Other curves,
corresponding to equations obtained by other authors, are
also plotted in Figure 3 to check their validity in
relation to a cross-field amplidyne. It will be seen that
Curve 1 agrees best with test results. This is because
non-linearity of the transient resistance of the brush
contact has a considerable influence on the change of the
current in the commutating section and should be allowed
for in analysis of commutation in cross-field amplidynes.
The differences between Curve 1 (theoretical) and Curve 5
(experimental) result partly from the approximate nature of
the solution of the differential Eq (5) and partly from

Card2/3

The Commutation of Cross-field Amplidynes   SOV/144-59-6-8/15

disregard of armature reaction in the amplidyne.
The curves of other authors do not in general agree at
all well with the experimental values.
There are 3 figures and 5 Soviet references.

ASSOCIATION: Kafedra elektricheskikh mashin, Tomskiy politekhnicheskiy
institut (Chair of Electrical Machines, Tomsk Polytechnical
Institute)

SUBMITTED: March 28, 1959

Card 3/3

SOV/144-59-11-11/21

AUTHOR: Skorospeshkin, A. I., Aspirant

TITLE: Some Results of an Experimental Investigation of the
              Process of Commutation in a Cross-Field Amplidyne

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika,
              1959, Nr 11, pp 74-78   (USSR)

ABSTRACT: The cross-field amplidyne has two sets of brushes, so
              that the current distribution in the armature winding
              is not uniform and commutation is poor.   There are
              several stator windings, each of which affects
              commutation.   It was accordingly decided to make
              tests of commutation in cross-field amplidynes, and
              this article gives some information on the influence of
              the compensating winding and interpoles on the process
              of commutation.   If the amplidyne direct-axis armature
              reaction is not compensated, the amplidyne cannot work,
              and under- or over-compensation are causes of unstable
              operation.   Sparking is often attributed to the brushes
              or to out-of-balance when in fact it is due to incorrect
              compensation.   Special tests were made to study the
Card 1/4   influence of direct-axis armature reaction on the

SOV/144-59-11-11/21

Some Results of an Experimental Investigation of the Process of
Commutation in a Cross-Field Amplidyne

commutation of an amplidyne: brushes equal in width
to the commutator pitch were fitted on the direct
axis; the quadrature-axis brushes were removed and an
external supply was applied to the armature winding.
A curve of the current in the commutating section is
plotted in Fig.2 for an armature current of 1.5 A and
shows that commutation conditions are difficult both at
the leading and the trailing edges of the brushes.
This poor commutation is due to the field of direct-axis
armature reaction. The corresponding field curve,
shown in Fig.3, indicates that the field reaches a
maximum on the axis of the brushes, so that commutation
is bad. Thus it is obviously necessary to compensate
direct-axis armature reaction. Similar tests were
made to study the influence of the compensating winding,
but the compensating winding was also supplied from an
external source in these tests. The current curve in
Fig.4 corresponds to under-compensation of about 47%;
conditions are better than in the curve of Fig 2, but

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Some Results of an Experimental Investigation of the Process of
Commutation in a Cross-Field Amplidyne

still difficult at both leading and trailing edges.
The curve of Fig.5 was obtained with normal compensation;
here commutation follows the desirable straight-line
law.   Fig.6 shows a curve corresponding to an over-
compensation of 21% and the commutation conditions are
again bad.   If there are no brushes on the commutator
and supply is applied only to the compensating winding,
the field curve is as shown in Fig.7.   As the armature
field is compensated the resultant field curve changes;
Fig.8 shows the latter curve when the under-compensation
is about 2%.   A number of practical conclusions are
drawn from this evidence.   The influence of the
interpoles is then analysed.   In normal d.c. machines
they are fitted at the neutral position and are the
main method of improving commutation.   In cross-field
amplidynes the main pole is split and the interpole is
located in the middle of the main pole   so that its
operation and effectiveness are somewhat different.
Special tests to check the influence of the interpoles
Card 3/4   on commutation indicated that to obtain straight-line

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Some Results of an Experimental Investigation of the Process of
Commutation in a Cross-Field Amplidyne

commutation with an armature current of 1.7 A, a current
of 6.1 A is necessary in the interpoles. Thus the
effect of the interpoles is not very great and adjustment
of commutation depends mainly on the compensating
windings. The curve of Fig 9 was obtained with supply
applied only to the interpole winding with no brushes
on the commutator. It will be seen that the interpole
field curve has a marked peak, but that the interpole
is not effective. There are 9 figures and 6 Soviet
references.

ASSOCIATION· Tomskiy politekhnickeskiy institut
              (Tomsk Polytechnical Institute)

Card 4/4

SKOROSPESI███KI., A. I. Cand Tech Sci — (diss) "Commutation

of electrical machine boosters with a lateral field," Tomsk, 1960,

10 pp, 150 cop. (Tomsk Polytechnical Institute S. M. Kirov) (KL, 42-60, 114)

SERDYUK, **Fedor** Alek**sandrovich**, kand.tekhn.nauk; SKOROSPESHKIN,
Aleksey Ivanovich, aspirant

Experimental study of the reaction of commutational and eddy
currents in a transverse field amplidyne. Izv. vys. ucheb.
zav.; elektromekh. 4 no.3:98-101 '61.   (MIRA 14:7)

1. Zaveduyushchiy kafedroy elektrotekhniki Ul'yanovskogo
politekhnicheskogo instituta (for Serdyuk). 2. Kafedra
elektricheskikh mashin Tomskogo politekhnicheskogo instituta
(for Skorospeshkin).
                    (Rotating amplifiers)

SKOROSPESHKIN, Aleksey Ivanovich, kand. tekhn. nauk, dotsent

Experimental study of the commutation of amplidynes. Izv. vys.
ucheb. zav.; elektromekh. 7 no.8:932-936 '64.
(MIRA 17:10)

1. Kafedra elektricheskikh mashin Tomskogo politekhnicheskogo
instituta.

SKOROSPESHKIN, Aleksey Ivanovich, kand.tekhn.nauk, dotsent; STEPANOV, Yuriy
Andreyevich, inzh.

Amplidyne with a smooth rotor. Izv.vys.ucheb.zav.; elektromekh. 7
no.10:1282-1283 '64.   (MIRA 18:1)

1. Kafedra elektricheskikh mashin Tomskogo politekhnicheskogo
instituta (for Skorospeshkin).

KOSTYL, Ya... Ivanovich, starshiy prepodavatel'; SKOROSPESHKIN, Aleksey
...ich, kand.tekhn.nauk, dotsent; OBERGAN, Eduard Fomich, aspirant

Potential at the output of an amplidyne operating on a.c.
Izv.vys.ucheb.zav.; elektromekh. 8 no.9:976-979 '65.

(MIRA 18:10)

1. Kafedra elektricheskikh mashin Tomskogo politekhnicheskogo
Instituta.

KRASIK, L.B.; YEGOROVA, A.I.; GEYKHMAN, K.P.; SKOROSPESHKINA, M.I.;
KARKASHEVA, A.R.; PAREKHA, A.A.; GUZHAVINA, E.V.;
STEPANOVA, N.I.

Physical development of pupils in the boarding schools of
Perm (according to examination data of 1962). Zdrav. Ros.
Feder. 7 no.6:22-26 Je '63.   (MIRA 17:1)

1. Iz kafedry pediatrii (zav. - dotsent L.B. Krasik)
Permskogo meditsinskogo instituta (rektor - dotsent T.V.
Ivanovskaya).

MINCZEWSKI, Jerzy; SKORO-TRYBULA, Zofia

Reactions of 2-bromtiophene-3-hydroxamic acid with vanadium (V) and
iron (III). Chem anal 5 no.1:163-165 '60.   (EEAI 9:11)

1. Katedra Chemii Analitycznej Politechniki Warszawskiej
        (Vanadium)   (Iron) (Hydroxamic acids)
        (Bromothiphene)

SKOROTSKIY, S.S.; LUKIN, S.V.; KORSHUNOV, I.V., red.; KHASIN, L.N., tekhn.
red.

[Production planning for subsidiary plants of the petroleum trust]
Proizvodstvennoe planirovanie podsobnykh predpriiatii neftedoby-
vaiushchego tresta. Baku, Gos. nauchno-tekhn. izd-vo neft. i
gorno-toplivnoi lit-ry, Azerbaidzhanskoe otd-nie, 1950. 124 p.
                    (Petroleum industry)   (MIRA 11:10)

DIL', A.; CHARUGINA, N.; BORODIN, A.; SOLODOVNIK, P.; SKLYAR, I.;
SOLOVKIN, N.; POTAPOV, G.; PONOMAREV, N.; ALEKHIN, I. ;
SOLOMENTSEV, K.; TOPYLIN, N.; SKOROVAROV, M.; KARABANOV, S.;
BOGDANOV, N.; STRYUKOV, P.

Nikolai Vasil'evich Romenskii (on the occasion of the 40th
anniversary of his scientific, pedagogic, and public activity).
Muk.-elev. prom. 24 no.12:29-30 D '58.   (MIRA 12:1)
        (Romenskii, Nikolai Vasil'evich, 1894-)

Skorski J., Dr.

Skorski B., Dr. Ing. "Titanium and its Role in Steel Metallurgy." (Tytan i jego rola w metalurgii stali). Hutnik, No. 7-8, 1950, pp. 226-231, 5 figs., 2 tabs.

The common occurence of titanium in nature, its chemical properties and compounds, are discussed. Titanium, as an alloy supplement to iron, increases several of the positive properties of steel. Enumeration of these properties. The author, taking for a basis the relatively cheap compound TiO_2, has produced "Tatil", for which he uses the term "tianek sodu". He produced this compound by melting TiO_2 with NaOH in a graphite crucible. The product obtained after caking in $1300^\circ C$, lost sodium and passed probably into compound: $Ti_1C_2H_9$. This compound would be a very suitable deoxidising addition in the process of steel production.

SO: Polish Technical Abstracts - No. 2, 1951

SKOROV, B.M., kandidat tekhnicheskikh nauk, redaktor; IZRAILOVICH, N.Ye.,
    inzhener, redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Progressive construction engineering] Peredovaia stroitel'naia
tekhnika. Pod obshchei red. B.M.Skorova. Moskva, Gos.izd-vo
lit-ry po stroit. i arkhit., 1952. 284 p.   (MIRA 10:9)

1. Moscow. TSentral'nyy institut informatsii po stroitel'stvu
        (Building)

SKOROV, B.M.

Housing construction abroad. Opyt stroi.no.4:4-12 '56.   (MLRA 10:2)
(Housing)

SKOROV, B.M., kandidat tekhnicheskikh nauk.

Lowering the weight of an apartment house is one of the means for reducing its construction cost. Biul. stroi. tekh. 14 no.4:9-12 Ap '57.   (MIRA 10:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'stva Akademii stroitel'stva i arkhitektury SSSR.
                    (Construction industry--Costs)

NOVIKOV, I.I., kand.iskusstv.nauk, arkhitektor; SKOROV, B.M., kand.
tekhn.nauk, red.; MOROZOVA, G.V., red.izd-va; RUDAKOVA,
N.I., tekhn.red.

[City building in foreign countries (France, the Netherlands,
Belgium, Austria, and the German Federal Republic] Iz
praktiki gradostroitel'stva za rubezhom (Frantsiia, Gollandiia,
Bel'giia, Avstriia i FRG). Moskva, Gos.izd-vo lit-ry po stroit.,
arkhit.i stroit.materialam, 1959. 73 p. (Opyt stroitel.stva,
no.25)   (MIRA 13:2)
          (Europe, Western--City planning)

SKOROV, D.M.

PROCESSES AND PROPERTIES note

Heat treatment and choice of steels for complex cold punches. D. M. Skorov and S. I. Slutskii. *Kachestven-naya Stal* 1936, No. 9, 46-55; *Chem. Zentr.* 1936, I, 4794-5.—Investigations are reported on the deformation of punches of complex form during hardening, together with the detn. of the most satisfactory heat treatment (from detns. of hardness and annealing temps.) for various types of steels alloyed with Cr, Ni, W and Mo.

M. G. Moore

A S A S L A METALLURGICAL LITERATURE CLASSIFICATION

SKOROV, D.M.

Choice of steels for dies and their heat treatment.
D. M. Skorov. *Kuchestvennaya Stal* 1935, No. 10, 21 7.
Chem. Zentr. 1936, I, 4196 7. Data are given on the chief
types of breaks in dies and their causes, as well as the
requirements for satisfactory dies. A review is included
of die alloys preferred in America, England and Germany.
Data are also reported on the heat treatment and use of 3
different die steels used in the Moscow Stalin Automobile
Works.   M. G. Moore

METALLURGICAL LITERATURE CLASSIFICATION

SKOROV D.M.

Choice of a steel and its best thermal treatment for the production of drift broaches. D. M. Skorov and A. I. Dorokhov. *Vestnik Metalloprom.* 15, No. 4, 113 (1935); *Chem. Zentr.* 1936, I, 1662. Investigations are reported on alloyed steels of different C (0.2-1.7%), Cr and W contents with or without the addn. of Mo or V for the production of drift broaches which must show high resistance to shock and to wear together with a high degree of hardness and sufficient mech. strength. Steels of the following compns. are recommended: (1) 1.45 1.7% C, not less than 0.35% Mn, not less than 0.5% Si, 11 12.5% Cr, 0.15 0.3% V and 0.5 0.8% Mo; (2) 0.7 0.85% C, 1.25 1.75% Cr and 2.25 3.35% Mo; and (3) 0.2 1.1% C, 0.15 0.2% V and 0.15 0.2% Mo. The most satisfactory heat treatments were: (1) Heating to 790°, maintaining this temp. about 15 min. and cooling in a salt bath; (2) heating to 790°, maintaining that temp 15 min., cooling 5 sec. in water and then cooling in oil; (3) heating as before to 790° and maintaining the temp. 15 min., cooling 10 sec. in water and then cooling in oil.
　　　　　　　　　　　　　　M. G. Moore

A.S.M. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

SKOROV, D. M.

8696. (Russian.) Some Properties of Zirconium-Niobium
Alloys. Nekotorye svoistva splavov tsirkoniia s niobiem.
Iu. F. Bychkov, A. N. Rozanov, and D. M. Skorov. Atomnaia
Energiia. v. 2 Feb. 1957. p. 146-151.

Preparation of alloys; constitution diagram; expansion at room
temperature; heat resistance and hardness up to 750 C; aging
properties.

SKOROV, D. M.

SOME PROPERTIES OF ZIRCONIUM-NIOBIUM ALLOYS.

Yu. F. Bichkov, A. N. Rozanov, and D. M. Skorov. J. Nu-
clear Energy 5, 402-7 (1957).

The constitution of zirconium-niobium alloys has been
investigated and modifications to the existing equilibrium
diagram are suggested. The mechanical properties of the
alloys at room temperature have been determined and the
hot-strength at temperatures of up to 750°C has been de-
duced from hardness measurements. Also, hardness has
been measured after low-temperature ageing treatments.
Measured results are correlated with the equilibrium dia-
gram. The resistance of the alloys to oxidation in air has
been determined in the temperature range 570 to 650°C
(auth)

SKOROV, D. M.

27

YOUNG'S MODULUS OF ZIRCONIUM-NIOBIUM ALLOYS.
Yu. F. Bichkov, A. N. Rozanov, and D. M. Skorov. J. Nu-
clear Energy 5, 408-12(1957).
   The results are given of measurements of the value of
Young's modulus for zirconium-niobium alloys in vacuum
at temperatures up to 650°C, and also at room temperature
after various heat treatments (auth)

SOV/137-58-11-23615

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 249 (USSR)

AUTHORS: Bychkov, Yu. F., Rozanov, A. N., Skorov, D. M.

TITLE: Elastic Properties and Hardness of Zirconium-niobium Alloys at
           Elevated Temperatures (Uprugiye svoystva i tverdost' splavov tsir-
           koniya s niobiyem pri povyshennykh temperaturakh)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsvetn. met. i zolota, Nauchnotekhn.
            o-vo tsvetn. metallurgii, 1957, Nr 30, pp 268-282

ABSTRACT: A Zr-Nb phase diagram is plotted. The mechanical and certain
          physical properties of alloys (A) thereof are investigated relative to
          temperature and time. The A are made in an arc furnace with a W
          electrode in an Ar atmosphere. The charge employed is Zr iodide
          containing 1.5% Hf also Nb foil with 1% Ta added. After repeated
          remelting, contamination with W is <0.1%. A with less than 20%
          Nb are forged at 800-500°C, while samples with greater Nb con-
          tent are made from cast rods. The phase diagram plotted is iden-
          tical in appearance with that of Rogers and Atkins (RZhMet, 1956,
          Nr 7, abstract 6709), but the transformation temperatures are
Card 1/2   somewhat lower owing to the difference in the chemical composition

Elastic Properties and Hardness of Zirconium-niobium Alloys (cont.)

of the starting materials. The graph of H_B versus composition presents a flat max-imum (260 kg/mm^2) at $50-80\%$ Nb and a peak of diffusionless transformation at 7.5% Nb, which disappears upon slow cooling of the A from $650°$. Quenched A are noticeably hardened by aging. As Nb content increases there is a rise in H_B at ele-vated temperatures, particularly at $>20\%$ Nb. Upon heating from $20°$ to $750°$ the hardness of A containing not less than 50% Nb is reduced by $20-30\%$, while when Nb content is about 7% the decline is by 95 to 97%. A study of the influence of A contents upon ρ makes it possible to clarify the dependence of E upon composition after various heat treatments. It is found that the strength of the interatomic bond in quenched Zr-Nb solid solutions is considerably less than the strength of the bond in pure Zr and in solid solutions with small additions of Nb. Distortion in the cry-stal lattice as the result of alloying and heat treatment results in a sharp change in E and ρ. Upon heating from 20 to $900°$ the value of E drops by 59% for Zr and only by 6.6% for A containing 75% Nb. At $900°$ all A have a substantially higher E than does pure Zr. Thus in Nb-rich A the properties characterizing heat resis-tance and the strength of the interatomic bond change considerably less than the properties of Zr-rich A in the same temperature intervals.

G. T.

Card 2/2

SKOROV, D.M

ABSTRACT: The present work describes measuring results ot this modulus in
            the vacuum at temperatures of up to 950° C and at room temperature
            after different forms of heat treatment.
            At first the device for measuring this modulus is described by
            means of a drawing. Young's modulus was determined from the eigen-
            frequencies of bending flexural vibrations of cylindrical samples
            of a length of about 80 mm and a diameter of 4-6 mm. A normal
            telephone served as oscillation generator. The samples were pro-
            duced in an electric arc furnace fitted out with a special device
            for casting rods in an argon atmosphere. The production of homo-
            geneous viscous melts with a high content of niobium is discussed.
            For the purpose of investigating the influence exercised by heat
            treatment on Young's modulus, samples were annealed in evacuated
            quartz ampules in electric furnaces fitted out with heat regula-
            tors.
            The measured Young's modula of tempered and annealed alloys as

Card 1/3

PA - 2259

Young's Modula of the Alloys of Zirconium with Niobium.

well as electric resistances of the tempered alloys are shown
in form of diagrams. In the case of alloys tempered from 1100° C
in water, the curves (Young's modulus   to composition) and
(electric resistance   to composition) are mirrorimage-like as-
signed towards each other. The modification of the modulus and
electric resistance are caused by disportions of the chrystal
lattice. The other factors exercise but little influence. The
tempered alloys of niobium and zirconium are in a metastable state.
Young's modulus of alloys shows a particularly marked increase in
the vicinity of the minimum value of the modulus of the tempered
samples. In a table it is shown in what manner Young's modulus
of alloys with a different content of niobium decreases as a
result of heating of these alloys from roon temperature up to 900°C.

In conclusion the investigation of the transformations in
zirconium-niobium alloys by means of the thermoelastic method is
discussed in short. Thus, it is shown that an eutectoid trans-
formation at 560° C in an alloy containing 10 % Nb occurs visibly
in the case of heating. The creation of a new cubic ß-phase in
the case of heating the alloy above eutectoid temperature de-
creases Young's modulus rather sharply. Inverse transformation,

Card 2/3   decay of the ß-phase into a hexagonal α -phase and into a ß-phase

PA - 2259

Young's Modulus of the Alloys of Zirconium with Niobium.

of a different composition causes Young's modulus to increase.
(3 illustrations and 1 table.)

ASSOCIATION: Not given.
PRESENTED BY:
SUBMITTED: 19.9.1956
AVAILABLE: Library of Congress.

Card 3/3

32801
S/137/61/000/012/121/149
A006/A101

18.1272   1521 1418

AUTHORS: Bychkov, Yu.F., Rozanov, A.N., Skorov, D.M.

TITLE: Zirconium-niobium phase diagram

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 23, abstract
              12Zh168 (V sb. "Metallurgiya i metalloved. chist. metallov", no. 1,
              Moscow, 1959, 179 - 191)

TEXT: The X-ray, thermal, dilatometric, thermal-elastic and metallogra-
phic methods were employed to study transformations and to plot a phase diagram
of the Zr-Nb system. The alloys investigated were melted in an arc furnace in
argon atmosphere from a Nb-strip of iodide Zr rods of 99.7% purity. After 3-5
fold remelting the ingots were forged at 800-600°C and subjected to heat treat-
ment. It was established that in the Zr-Nb system at high temperatures a con-
tinuous series of solid solutions is formed between β-Zr and Nb with a minimum
on the solidus curve at 1,600°C and 30% Nb. At 560°C, the eutectoid decomposi-
tion of β-solid solutions takes place. The eutectoid point corresponds to 12%
Nb. During the quenching of alloys containing up to 15% Nb, the β-solution is

Card 1/2

32801
S/137/61/000/012/121/149
A006/A101

Zirconium-niobium phase diagram

partially or fully transformed into acicular or reticular martensite-like struc-
ture. In alloys with 15% and more Nb, a body centered cubic β-phase appears
during quenching from high temperatures.

A. Belinkiy

[Abstracter's note: Complete translation]

Card 2/2

BYCHKOV, Yu.F.; KLIMOV, A.F.; ROZANOV, A.N.; SKOROV, D.M.

Effect of alloying on the longitudinal elasticity modulus of
zirconium. Met.i metalloved.chist.met.   no.1:231-242 '59.
(MIRA 12:10)

(Zirconium alloys) (Elasticity)

S/137/61/000/005/056/060
A006/A106

18830O

AUTHORS: Bychkov, Yu. F.; Rozanov, A. N.; Skorov, D. M., and Cheburkov, V.I.

TITLE: Corrosion resistance of $\mathcal{A}$1-T (Yai-T) steel in lithium with oxygen
             and nitrogen admixture

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 5, 1961, 60, abstract 5I453
             (V sb.: "Metallurgiya i metallovedeniye chistykh metallov", no. 2,
             Moscow, Atomizdat, 1960, 78-92)

TEXT: The authors studied changes in the microstructure and mechanical
properties of Fe, Ni, and Cr-Ni- steel grade "Yai-T" as a result of the effect of
distilled Li and Li containing 1-2 weight % O or N. They investigated also
changes in the chemical composition of Li due to the corrosion of the enumerated
substances contained in it.

                                                      Ye. L.

[Abstracter's note: Complete translation]

Card 1/1

DASHKOVSKIY, A.I.;   YEVSTYUKHIN, A.I.;   SAVITSKIY, Ye.M.;   SKOROV, D.M.

Temperature relation of internal friction and the shear modulus
of uranium. Met. i metalloved. chist. met. no. 2:224-228 '60.
        (Uranium--Thermal properties)   (MIRA 13:12)
                (Internal friction)

SAMOHOV, A.M.;   SKOROV, D.M.

Carbon distribution in ZHl, Lal-T and EI-211 stainless steels.
Met. i metalloved. chist. met. no. 2:229-237 '60.   (MIRA 13:12)
(Steel, Stainless--Metallography)

SAMONOV, A.M.;   SKOROV, D.M.

Studying the distribution of sulfur and phosphorus in ZHl,
Ial-T and El-211 steels, by means of autoradiography. Met.
i metalloved. chist. met. no. 2:238-251 '60.   (MIRA 13:12)
                 (Steel, Stainless--Metallography)

82282

S/089/60/009/01/05/011
B014/B070

/𝓎. 𝓎200

AUTHORS: Dashkovskiy, A. I., Yevstyukhin, A. I., Savitskiy, Ye. M.,
               Skorov, D. M.

TITLE: Internal Friction of Uranium

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 1, pp. 27 - 32

TEXT: The internal friction and, thus, the modulus of rigidity of uranium
as dependent on temperature was measured by means of a relaxator which
recorded the damping of the free torsional oscillations of a sample. A
uranium wire of a length of 320 mm (diameter 0.98 mm) and a purity of
99.9% was used as a sample. The frequency of oscillations of the wire in
a vacuum of 5.10^{-5} torr was ~2/sec. The rate of heating or cooling
varied in the range 5 - 0.5°C/min. The accuracy of temperature measure-
ment was ± 1.5°C. According to the three phases of uranium, the samples
were annealed at 630, 645, 670, 720, 755, 768, 850, and 960°C. The
course of the measured parameters is represented for the various
temperatures in Figs. 1-5. The results of measurement lead to the

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Internal Friction of Uranium

S/089/60/009/01/05/011
B014/B070

following conclusions: (1) The bend in the internal friction curve in the temperature range 450 - 500°C is caused by the tenacity of the grain boundaries. This tenacity disappears after annealing in the β- and γ-phases. This is the result of the recrystallization of phases due to lower mobility of the boundaries. (2) In temperature changes, the polymorphous transformations of uranium are accompanied by an isothermal change in internal friction. The changes take place during heating as well as during cooling in both directions. (3) The most plastic γ-domain, which has a body-centered cubic lattice, is characterized by a high internal friction. The tetragonal β-modification which tends to brittleness, has the lowest internal friction. It is generally true that the internal friction is related directly to the crystal lattice and to its capability of plastic deformation. There are 5 figures and 13 references: 10 Soviet, 2 American, and 1 French.

SUBMITTED: October 3, 1959

Card 2/2

PHASE I BOOK EXPLOITATION   SOV/5425

Fedorov, N.D., Candidate of Technical Sciences, Compiler

Kratkiy spravochnik inzhenera-fizika: Yadernaya fizika. Atomnaya fizika
(Concise Handbook for the Engineering Physicist: Nuclear Physics. Atomic
Physics) Moscow, Atomizdat, 1961. 507 p. 28,000 copies printed.

Ed.: A.F. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This reference book is intended for   engineers and physicists working
in the field of atomic and nuclear physics.

COVERAGE: The first seven parts of the book contain the most necessary reference
material on atomic and nuclear physics. The remaining parts present information
and data from other related fields. The last part gives the information on
systems of units compiled from the new GOST specifications, physical constants,
and some mathematical data. No personalities are mentioned. References
accompany each part of the book.

Card 1/13

Concise Handbook (Cont.)

SOV/5425

PART THREE. MATERIALS USED IN REACTOR CONSTRUCTION (D. M. SKOROV)

Card-5/13

CHEPKUNOV, V.V., aspirant[translator]; SKOROV, D.M., doktor tekhn.
nauk, prof., red.; ZAVODCHIKOVA, A.I., red.; VLASOVA, N.A.,
tekhn. red.

[Metallography of reactor materials]Metallovedenie reaktor-
nykh materialov; obzory. Moskva, Gosatomizdat. [From
"Reactor Core Materials"; a quarterly...] Book 3. [Moderator,
reflector, and control device materials]Materialy zamedlite-
lia, otrazhatelia i reguliruiushchikh ustroistv. Pod red.
D.M.Skorova. 1962. 113 p.Translated from the ....
(MIRA 15:10)

1. Battelle Memorial Institute, Columbus, Ohio.
        (Nuclear reactors--Materials)

S/755/61/000/003/018/027

AUTHORS: Semenikhin, A.N., Gruzin, P.L., Skorov, D.M.

TITLE: The modulus of elasticity of beryllium at elevated temperatures.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallove-
           deniye chistykh metallov. no.3. 1961, 190-192.

TEXT: The paper describes measurements of the dynamic modulus of normal
elasticity (E) of Be at temperatures (T) up to 800°C. Be is an excellent nuclear
moderator and neutron reflector; it has a small thermal-neutron-capture cross-
section. Its major drawback is its brittleness, the reasons for which are as yet
unknown. The E was calculated from the resonance frequency of flexural oscilla-
tion of a freely suspended cylindrical specimen. Measurements were made in a
10⁻⁴-torr vacuum on the equipment described by Bychkov, Yu. F., et al., in
Atomnaya energiya, v.II, no.2, 1957. The specimens were 100 mm long, 5-mm
diam, and were sintered of Be powder 99.8% pure. A mean E of 3 specimens at
room T is 28,500   500 kg/mm². The variation of E with T is linear up to 600°C,
decreasing at a rate of 5.6 kg/mm² per °C. The steeper decrease in E in the 600-
750° interval proceeds at 13.5 kg/mm² per °C. Comparison measurements on Zr,
Ti, and X18H9T (Kh18N9T), steel indicate that the E of Be at 600° is about 3x that

Card 1/2

AUTHORS: Milov, I.V., Okinshevich, V.V. and Skorov, D.M.
              (Moscow)

TITLE: On the temperature distribution in a rod in
              crucibleless zone recrystallization

TEXT: The case is considered of the recrystallization of a
cylindrical rod with the ends maintained at the fixed temperature
T_2 while the molten zone is maintained at the constant tempera-
ture T_1.   The molten zone is maintained by the supply of heat
of power N. The liquid-solid boundary is assumed flat and
perpendicular to the axis of the rod. It is assumed (1) that the
loss of heat by evaporation in the solid phase is negligible,
(2) the rod is in a vacuum and the heat exchange with the residual
gases is negligible, (3) the heat flow from the walls of the
chamber containing the rod onto the rod is negligible. A relation
is obtained giving the distance from the molten zone as a
                                                   ...e zone stable as
Card 1/3   ...uation depends on this. This can be

On the temperature distribution ... S/180/62/000/002/004/018
E025/E535

done by programming the variation of cooling of the ends of the
rod and, in the case of electron beam heating, by varying the
emission current of the cathode as this is simpler than varying
the voltage accelerating the electrons. In the case of induction
heating the supply current of the inductor can be programmed. A
study of the three dimensional problem of the temperature distri-
bution in the rod is made by assuming the law of variation of
the heat flow supplied to the rod along the length of the rod,
Isothermal surfaces and lines of heat flow are sketched for this
case. The condition is derived for the zone to be bounded by
planes. The attempt to obtain a point focus for an electron beam
in the case of electron ray heating is criticised on the ground
that a point source leads to convexity of the zone boundaries and
this convexity increases with the melting point of the material.
It is stated that in induction heating the boundaries of the zone
are concave.   There are 5 figures.

SUBMITTED: September 23, 1961

Card 3/3

/ .CESSION NR: AT4005968   S/2755/63/000/004/0175/0181

AUTHOR: Milov, I. V.; Skorov, D. M.; Nikishanov, V. V.

TITLE: Mechanical properties of zone refined beryllium

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallo-
vedeniye chisty*kh metallov, no. 4, 1963, 175-181

TOPIC TAGS: beryllium zone refining, beryllium property, beryllium micro-
hardness, beryllium ductility, high purity beryllium, zone refined beryllium,
beryllium zone melting, beryllium purification, beryllium mechanical property,
beryllium

ABSTRACT: Wide application of beryllium as a structural material is limited
because of its brittleness at room temperature. There are several techniques
currently being tested for the production of plastic beryllium:

    (1) hot working of ingots, aimed at a certain orientation of
      crystallites;
    (2) alloying, aimed at fixation of the beta phase having a cubic
      lattice;

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ACCESSION NR: AT4005968

(3) grain refinement to 25 microns by powder-metallurgy processes;
(4) purification by distillation, thermal decomposition of halides,
    and zone recrystallization.

Beryllium ingots were zone refined in a water-cooled copper crucible by the inert
gas electric arc method, applying a zone propagation velocity of 0.75 mm/min. A
columnar growth of grains was observed directly from the bottom and walls of the
cooled crucible toward its axis and bending in the direction of the path of zone
propagation. The length of the obtained grains reached 40-45 mm at a cross sec-
tion of 2x3 mm. X-ray evidence did not disclose a clearly defined crystallogra-
phic orientation. Micro-hardness measurements, conducted at surfaces cut at
right angles to the ingot axis, revealed that micro-hardness increases along the
ingot in the direction of applied zone propagation. On the basis of micro-hard-
ness measurements and crystallographic evidence, it was concluded that the basal
plane, with small deviations, is oriented in the ingot at right angles to the
direction of grain growth. This conclusion also confirmed the results of X-ray
investigations.

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Card

ACCESSION NR: AT4005968

Specimens for compression tests, 7 mm in diameter x 9 mm long, were prepared from different regions of the zone refined ingots, choosing for the specimens a similar grain orientation. Beryllium plasticity is strongly dependent on preferred grain orientation and grain size. Basal planes (0001) in the test specimens were inclined approximately 50° with respect to their axes. Prepared specimens were compression tested on the recording type testing machine (TsNIITMASh—I) with a capacity of 4000 kg. The stress-strain curves obtained were similar to compression curves of plastic metals. The following mechanical properties were determined by compression testing of specimens taken from different locations along the ingot, and from ingots subjected to different numbers of zone refining passes: ultimate compressive strength, ultimate longitudinal strain, yield strength, longitudinal strain at yield stress. Specimens which have been cut from the zone-travel-starting-end, exhibited the greatest strength and ductility. The zone-travel-starting-end contained beryllium of higher purity, and the impurities migrated in the direction of zone propagation. It was concluded that strength and ductility of beryllium decreased with an increase of impurities content. It was observed that some of the failed test specimens were somewhat twisted around their axis. Difficulties arose in the investigations of deformation and plastic properties of polycrystalline beryllium when directions of grain growth during recrystallization were curvilinear in the

Card 3/4

MILOV, I.V.; OKINSHEVICH, V.V.; SKOROV, D.M.

Possibility for an extension of the pressure range measurement by the LT-2 thermocouple lamp. Zav. lab. 30 no.5:633 '64.
(MIRA 17:5)

1. Moskovskiy inzhenerno-fizicheskiy institut.

SKOROV, G. Ye.

MANUKYAN, A.A.; GLUSHKOV, V.P.; SHVEDKOVA, V.M.; SVIRIDOVA, Z.P.; CHEBOTA-
REVA, Ye.A.; SHUMILIN, V.I.; PUDINA. K.V.; BRAGINA, N.M.; LUTSKAYA,
Ye.Ye.; KODACHENKO, A.S.; KOSOVA, V.A.; MOKLYARSKIY, B.I.; GRECHIKHIN,
A.A.; KULIKOV, N.I.; RYDVANOV, N.F.; BEL'CHUK, A.I.; VINTSER, Yu.I.;
ROZENTAL', Ye.I.; BELOUS, T.Ya.; SIDOROV, V.F.; ZHDANOVA, L.P.;
ALEKSANDROVSKAYA, L.I.; KOVAL', V.V.; KHAVINSON, Ya.S., glavnyy red.;
SOKOLOV, I.A., zam.glavnogo red.; ALEKSEYEV, A.M., red.; ARZUMANYAN,
A.A., red.; BELYAKOV, A.S., red.; BECHIN, A.I., red.; VARGA, Ye.S.,
red.; LEMIN, I.M., red.; LYUBIMOVA, V.V., red.; SKOROV, G.Ye., red.
V redaktirovanii uchastvovali: SHAPIRO, A.I., red.; TATISHCHEV, S.I..
KOVRIGINA, Ye., tekhn.red.

[Economic conditions of capitalistic countries; review of business
conditions for 1958 and the beginning of 1959] Ekonomicheskoe polo-
zhenie kapitalisticheskikh stran; kon"iunkturnyi obzor za 1958 g.
i nachalo 1959 g. Moskva, Izd-vo "Pravda," 1959. 127 p. (Prilo-
zhenie k zhurnalu "Mirovaia ekonomika i mezhdunarodnye otnosheniia,"
no.8, avgust 1959 g.)   (MIRA 12:9)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh
otnosheniy. 2. Kollektiv sotrudnikov kon"yunkturnogo sektora Insti-
tuta mirovoy ekonomiki i mezhdunarodnykh otnosheniy AN SSSR (for
Glushkov, Shvedkova, Sviridova, Chebotareva, Shumilin, Pudina, Bragina,
Lutskaya, Kodachenko, Kosova, Moklyarskiy, Grechikhin, Kulikov, Rydva-
nov, Bel'chuk, Vintser, Rozental', Belous, Sidorov, Zhdanova, Alek-
sandrovekaya, Koval').(Economic conditions)

SKOROV, R. F.

SKOROV, R. F. "Control of Monilia on Apricots by Spraying with
    Creolin Solution," Sad i Ogorod, no. 9, 1947, pp. 34-35. SO
    Sad3

SOURCE: SIRA SI-90-53, 15 Dec. 1953.

AUTHOR·   Skorov, V.A.

136-58-3-2/21

TITLE·   Molybdenum-Lead Products Selection Practice (Praktika selektsii molibdeno-svintsovykh produktov)

PERIODICAL· Tsvetnyye Metally, 1958, Nr.3. pp. 7 - 10 (U.S.S.R.)

ABSTRACT·   Consumer requirements fix the upper limit of lead in molybdenum concentrates at 0.5% and the author considers the selective flotation of a product of the following composition: 44.0 - 46.0% Mo, 3.2 - 9.7% Pb, 0.3 - 0.6% Cu, 0.02 - 0.07% Sn, 0.03 - 0.07% As, 0.02 - 0.05% P, 3.5 - 5.5% SiO2. A table showing the molybdenum and lead contents and distribution in the various size fractions and the size grading (table 1) indicates the need for further grinding. Laboratory work on the selective flotation of such materials started at the Chelyabinskky and continued at the Skopinskiy works, showed that grinding to 90% - 0.074 mm is needed. Flotation was effected in 3-% sodium sulphide solution with transformer oil as the collector, a recovery of molybdenum of over 98% being obtained in concentrate with a lead content of under 0.5%. The author next describes the full-scale scheme adopted (flowsheets figs.1 & 3) and the plant used (fig.2) (fig.2). The sodium-sulphide concentration was 2.5% and the resulting undesirably high concentration (1.6 - 1.7% Na2O + K2O) in the product neccessitated washing. Temperature-control was found to be important, 40% being best for selective flotation of molybdenite and

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Molybdenum-Lead Products Selection Practice.   130-58-3-2/21

galenite. The concentrate contained less than 0.5% PG; a lead
concentrate containing over 32% lead was also obtained, the loss of
molybdenum in it being under 1% and the lead recovery being 90%
of its content in the molybdenum-flotation tailings. The work showed
the advantage of using solution from the thickening of molybdenum-
flotation products. There are 3 figures and 2 tables.

ASSOCIATION: Skopinskaya obogatitel'naya fabrika (Skopinskaya Beneficiation Works)

AVAILABLE: Library of Congress.

1. Mining Industry-USSR   2. Ores-Production

Card 2/2

SKOROV, V.A.; GLEBOV, Yu.M.

Simultaneous retreatment of molybdenum concentration products
of various composition. TSvet. met. 37 no.12:1-5 D '64
(MIRA 18:2)

SKOROV, V.A.

Unified method of calculating marketable recovery in mineral dressing.
TSvet. met. 34 no.2:19-24 F '61..   (MIRA 14:6)
                              (Ore dressing)

SKOROV, V.A.

Dressing of tungsten substandard and collective rougher concentrates.
TSvet. met. 34 no.3:4-10 Mr '61.   (MIRA 14:3)
      (Ore dressing) (Tungsten ores)

SKOROV, V.A.; STEPANOV, I.S.; SHAKHNAZAROV, A.K., inzhener-metallurg, pensioner; PETROV, V.I., Geroy Sotsialisticheskogo Truda; BARYSHNIKOV, I.F., starshiy inzhener; BUGAREV, L.A.; LAKERNIK, M.M., kand.tekhn. nauk; SHEYN, Ya.P.; MOLCHANOV, A.A.

The greatest objective of our life. TSvet.met. 34 no.10:1-10
O '61.   (MIRA 14:10)

1. Glavnyy inzhener Skopinskogo zavoda "TSvetmet" (for Skorov).
2. Zamestitel' predsedatelya Mezhduvedomstvennoy komissii po redkim
metallam pri Gosudarstvennom komitete Soveta Ministrov SSSR po
koordinatsii nauchno-issledovatel'skikh rabot (for Stepanov).
3. Rukovoditel' brigady kommunisticheskogo truda elektroliznogo
tsekha. Ural'skogo alyuminiyevogo zavoda (for Petrov).
4. Otdel tsvetnoy metallurgii Gosplana SSSR (for Baryshnikov.).
5. Nachal'nik podotdela otdela ekonomiki i razvitiya tsvetnoy
metallurgii Gosekonomsoveta SSSR (for Bugarev). 6. Zamestitel'
direktora po nauchnoy chasti Gosudarstvennogo nauchno-issledovatel'-
skogo instituta tsvetnykh metallov (for Lakernik). 7. Starshiy
ekspert upravleniya Gosudarstvennogo komiteta Soveta Ministrov SSSR
po avtomatizatsii i mashinostroyeniyu (for Sheyn). 8. Glavnyy
spetsialist otdela tsvetnoy metallurgii Gosplana SSSR (for Molchanov).
                          (Communism)

SKOROV, Vasiliy Andreyevich; TROITSKIY, A.V., otv. red.; GARBER, T.N., red. izd-va; MAKSIMOVA, V.V., tekhn. red.

[Ore dresser]Obogatitel' gornorudnoi promyshlennosti. Moskva, Gosgortekhizdat, 1961. 311 p.   (MIRA 15:10)
(Ore dressing)

SHAPIRO, K.Ya.; YURKEVICH, Yu.N.; SKOROV, V.A.

Treatment of intermediate molybdenum products for ammonium
molybdate used in agriculture. TSvet. met. 35 no.9:67-70 S
'62.   (MIRA 16:1)

(Ammonium molybdate)

SKOROV, V.A.; GLEBOV, Yu.M.

Recovery of accessory minerals in finishing the dressing of intermediate products of tungsten. TSvet.met. 36 no.2:15-19
F '63.   (MIRA 16:2)
                    (Ore dressing—By-products)
                       (Tungsten ores)

SKOROV, V.T.

Reply to the article "Required measure of labor productivity for signaling and communication workers." Avtom., telem. i sviaz' 8 no.8:36 Ag '64.

(MIRA 17:10)

1. Zamestitel' nachal'nika Barabinskoy distartsii signalizatsii i svyazi Zapadno-Sibirskoy dorogi.

L 18959-63   EPR/EWP(j)/EPF(c)/EWT(m)/BDS   AFFTC/ASD   Ps-4/Pc-4/Pr-4
RM/WW/MAY
ACCESSION NR: AP3006537   S/0191/63/000/009/0030/0033

AUTHORS: Trostyanskaya, Ye. B.; Kazanskiy, Yu. M.; Skorova, A. V.; Poymanov,
          A. M.; Snegireva, I. A.

TITLE: Determining the quality of glass cloth and glass roving sizing

SOURCE: Plasticheskiye massy*, no. 9, 1963, 30-33

TOPIC TAGS: glass cloth sizing, glass, glass roving sizing, fiberglass water
             resistance

ABSTRACT: A method was worked out for evaluating AGM-3 sizing and conditions
were recommended for sizing FN fiberglass with AGM-3. The amine number of the
sizing film was determined by titration with HCl, readings being taken in the
first couple minutes of the titration. The continuity of the sizing film
was determined by electrically measuring the amount of moisture that would
evaporate through the film, using an IDN-1 Q-meter, ALM2 voltmeter and
KVT1/EN self-recording potentiometer. Orig. art. has: 7 figures, 1 equation.

Card   1/2

TROSTYANSKAYA, Ye.B.; POYMANOV, A.M.; SKOROVA, A.V.

Chemical reactions on the surface of glass fibers used for
the production of glass reinforced plastics. Plast. massy
no.11:67-69   '65.   (MIRA 18:12)

L   20382-66   EWP(e)/EWT(m)/EWA(d)/EWP(j)/T/ETC(m)-6   WW/RM/WH

ACC NR: AP6006550   (A)   SOURCE CODE: UR/0191/65/000/011/0067/0069

92

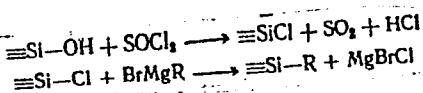AUTHORS: Trostyanskaya, Ye. B.; Poymanov, A. M.; Skorova, A. V.

ORG: none

TITLE: Chemical reactions on the surface of glass fibers used in the manufacture of fiber-glass plastics

SOURCE: Plasticheskiye massy, no. 11, 1965, 67-69

TOPIC TAGS: fiber glass, polymer, epoxy plastic, silicon quartz, surface active agent, glass fiber, silicon, glass, quartz, chemical reaction, surface ionization

ABSTRACT: It was the object of this investigation to find suitable conditions for the modification of surfaces of glass, silicon, and quartz fibers. The modification was carried out by the chemical addition of organic radicals to the surface, according to the schemes
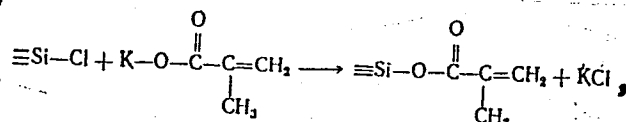
$$\equiv Si-OH + SOCl_2 \longrightarrow \equiv SiCl + SO_2 + HCl$$
$$\equiv Si-Cl + BrMgR \longrightarrow \equiv Si-R + MgBrCl$$

and

UDC: 666.189.211:677.862.5

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L   20382-66
ACC NR: AP6006550

$$\equiv Si-Cl + K-O-\overset{O}{\overset{\|}{C}}-\underset{\underset{CH_3}{|}}{C}=CH_2 \longrightarrow \equiv Si-O-\overset{O}{\overset{\|}{C}}-\underset{\underset{CH_3}{|}}{C}=CH_2 + KCl,$$

where R = trimethylsilane, allyl, ethyl, phenyl, or methacryl respectively. The contact angle of whetting and electrical surface conductivity of the modified surfaces were determined after the method of Ye. B. Trostyanskaya, A. M. Poymanov, and Yu. N. Kazanskiy (Plast. massy, No. 7, 1964). The experimental results are tabulated. It was found that substitution of mono- and divalent ions by tri- and tetravalent ions on the modified surfaces enhances the hydrophobic nature of the latter and eliminates the retarding action of the surface hydroxyl groups on the rate of hardening of polycondensation type binders, thus improving the qualities of the fiber-glass plastics. Orig. art. has: 3 tables and 4 equations.

SUB CODE: 11/   SUBM DATE: none/   ORIG REF: 008/   OTH REF: 007

Card 2/2   vmb

24095

S/186/60/002/006/020/026
A051/A129

26.2541

AUTHORS: Bagratsov, V. F.; Nikolayev, V. M.; Zolotavin, V. L.;
               Kostina, N.P.; Skorova, L. V.

TITLE: The sorption of microquantities of strontium and cesium on
               biotite

PERIODICAL: Radiokhimiya, v. 2, no. 6, 1960 734 - 738

TEXT: In a study of the sorption processes of strontium-90 and cesium-134 microquantities on biotite in the presence of macroquantities of alkali-earth metal and magnesium ions, the exchange equivalent and the applicability of the law of acting masses to the investigated system was established. The authors point out that the quantitative laws of ion exchange are expressed through the exchange isotherm. In deriving an equation for the ion exchange isotherm the activity coefficient of the microcomponent ion must be taken into consideration. The distribution coefficient concept (Ref. 12: S. Yu. Yelovich, ZhOKh, 3, 144, 660, 1933) is used. In case of sorption exchange of the microquantities of the element on the sorbent saturated by the macrocomponent, the ratio of the activity coefficients in the solid phase is a constant value, since the composition

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S/186/60/002/006/020/026
A051/A129

The sorption of microquantities of .....

of the solid solution changes very little, although the ionic strength of the solution can change here. Thus, the exchange constants are calculated for the investigated system by determining B_0 from experimental data. Biotite of the following composition was used in the experiments: SiO_2-35.74, Al_2O_3-13.92, Fe_2O_3-5.83, FeO-19.67, MnO-1.48, TiO_2-3.89, BaO-0.18, CaO-0.74, MgO-5.93, $K_2O + Rb_2O + Cs_2O$ - 4.03, Na_2O - 3.38. The activity coefficient of the ions were taken from literature data (Ref. 13: M. Kn. Karapet'yants, Khimicheskaya termodinamika. (Chemical thermodynamics). Goskhimizdat, M.-L., 1953). The given isotherms of distribution show that the experimental results coincide favorably with the calculations, i. e., the interaction of cesium[134] and strontium[90] with biotite follows the law of acting masses. The value of G was found to be $1.013 \cdot 10^{-5}$ mole Me^{2+} to 1 gram of sorbent. An anomalous bond strength was noted between the cesium ions and the sorbent. Finally, the following series of cation replacement on the biotite was derived from the calculated values of the exchange constants: $Cs^+ > Ba^{2+} > Sr^{2+} > Ca^{2+} > Mg^{2+}$. There are 2 tables, 2 figures and 16 references: 8 Soviet-bloc and 8 non-Soviet-bloc. The references to the four most recent English language publications read as follows: A. P. Vanselow, J. Am.'

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24095

The sorption of microquantities of ....   8/_89/60/002/006/025/026
A057/A129

Chem. Soc., 54, 1007, 1942; A. F. Vanselow, Soil. Sci. 33, 95, 1932; J. Barshad,
J. At. Min., 34, 455, 1948, C. Barshad, J. At. Min., 34, 675, 1949.

SUBMITTED: January 18, 1961.

X

Card 3/3

PATOCKA, F.; MARA, M.; SOUCEK, A.; SOUCKOVA, A.; technical assistance:
SKOROVA, Miroslava; SAHULOVA, Vera

Observations on the biological properties of atypical haemolytic
Corynebacteria isolated from man as compared with Cor. haemolyticum,
Cor pyogenes bovis and Cor.ovis. I. In vivo investigations.
J. hyg. epidem. 6 no.1:1-12 '62.

1. Department for Medical Microbiology and Immunology, Charles
University, Prague. (CORYNEBACTERIUM)

LASKORIN, B.N.; ZEFIROV, A.P.; SKOROVAROV, D.I.

[Extraction of uranium from solutions and pulp] Ekstraktsiia
urana iz rastvorov i pul'p. Moskva, Glav. upr. po ispol'zo-
vaniiu atomnoi energii, 1960. 24 p.   (MIRA 17:1)

S/089/60/008/06/04/021
B006/B063 82305

21.3200

AUTHORS: Laskorin, B. N., Zefirov, A. P., Skorovarov, D. I.

TITLE: Extraction of Uranium From Solutions and Slimes

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 6, pp. 519-529

TEXT: The present paper gives data on the extraction of uranium from solutions and slimes of sulfuric, nitric, hydrochloric, and phosphoric acids by means of the esters of various acids, liquid cationites, and anionites. The authors discuss mainly methods which can be used in industry. They first describe the extraction of uranium from solutions. They studied the extraction with various organic compounds (e.g. alcohols, ethers, ketones, diketones, and their halogen derivatives, esters of various acids, aliphatic amides, etc.). Alcohols , ethers, and carboxylic acid esters extract uranium from nitric acid solutions. The selectivity of the acetic acid esters increases with their solubility in water, as may be seen from Table 1. The selectivity of the extracting agents decreases in the following order: carboxylic acid

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Extraction of Uranium From Solutions
and Slimes

S/089/60/008/06/04/021
B006/B063 82305

esters, ethers, alcohols (Table 2). Fig. 1 shows the salting-out
effect of $Ca(NO_3)_2$ in the extraction of uranium by means of isoamyl
acetate and dimethyl phthalate. Following this, the authors discuss
the extraction by means of phosphoric acid esters. Trialkyl phosphates
are well-known selective solvents for the extraction of uranium. The
partition coefficient K_p which describes the extractibility, rises with
an increase in the hydrocarbon radical up to C_5 - C_6, after which it
drops exponentially. Triaryl phosphates practically do not extract
uranium. The selectivity of trialkyl phosphates rises with increasing
molecular weight of the extraction solvent. This may be seen from
Table 3 which shows the dependence of K_p of uranium on the nature of the
hydrocarbon radicals of the phosphoric acid esters. The technological
process of the extraction of uranium from nitric acid desorption
solutions is schematically represented in Fig. 3. The authors next
discuss the extraction of uranium by means of diisoamyl esters of
methyl phosphinic acid $[i(C_5H_{11}O)_2POCH_3]$ (DAMFK). Figs. 4 and 5 show
the dependence of K_p on the content of hydrochloric acid and phosphoric
acid of the solution from which uranium is extracted. Analogously, the

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Extraction of Uranium From Solutions   S/089/60/008/06/04/021
and Slimes   B006/B063 82305

authors discuss the extractibility of trioctyl phosphinoxide $(C_8H_{17})_3PO$, dialkyl phosphites $[(RO)_2P(OH)]$ with hydrocarbon radicals from C_4 to C_8, alkyl phosphoric acids, and amines. Alkylamines and alkyl-arylamines with long chains extract uranium from sulfuric acid solutions and concentrated hydrochloric and nitric acid solutions similarly as ion-exchange resins. The K_p values for U VI are given in Table 4 for numerous amines. Fig. 8 gives the technological scheme for a special case. The last part of the present paper treats the extraction of uranium from ore slimes. The losses of the extraction solvent are discussed, and it is shown that these losses decrease with increasing content of solid substances in the ore slimes or pastes (Fig. 9). The extraction of uranium from an ore paste is schematically shown in Fig. 10 and described. There are 10 figures, 4 tables, and 7 references: 6 Soviet and 1 Yugoslavian.

SUBMITTED: July 18, 1959

Card 3/3

S/830/62/000/001/008/012
E079/E192

AUTHORS: Laskorin, B.N., Skorovarov, D.I., and Shatalov, V.V.

TITLE: Extraction of uranium with trioctylphosphinoxide

SOURCE: Ekstraktsiya; teoriya, primeneniye, apparatura.
Ed. by A.P. Zefirov and M.M. Senyavin.
Moscow, Gosatomizdat, 1962. 163-170

TEXT: The main extracting properties of trialkylphosphinoxides
are illustrated on trioctylphosphinoxide (TOPO). Taking into
consideration that the saturation of TOPO is attained already at an
equilibrium concentration of uranium in aqueous phase (about 1 g/1)
and that at low initial concentration of uranium TOPO retains a
high capacity, coefficients of distribution of uranium on
extraction with 0.1 M solution of TOPO in kerosene from nitrate
solutions with a low uranium content (965-0.08 mg/1) were
determined. With decreasing concentration of uranium in the
aqueous solution, the coefficient of distribution increases and
reaches 20,000. The influence of the concentration of nitric and
hydrochloric acids on the extraction of uranium was also determined.
The salting out action of nitric acid is evident to a concentration

Card 1/2

LASKORIN, B.N.; SKOROVAROV, D.I.; SHATALOV, V.V.

Extraction of uranyl nitrate from nitric acid desorption solutions by tributyl phosphate and other organosphorous compounds. Ekstr.; teor.,prim.,app. no.2:174-178 '62.
(MIRA 15:9)
(Uranyl nitrate)   (Phosphorous organic compounds)

LASKORIN, B.N.; GOLYNKO, Z.Sh.; SKOROVAROV, D.I.

Extraction of uranyl sulfate by tri-n-octylamine. Ekstr.; teor.,
prim.,app. no.2:190-198 '62.   (MIRA 15:9)
        (Uranyl sulfate) (Octylamine)

LASKORIN, B.N.; SKOROVAROV, D.I.; FILIPPOV, Ye.A.; SHILIN, A.L.

Mixtures of mono- and di(2,4-diethyl-1-octyl) methyl phosphonates as extractants. Radiokhimiia 5 no.4:424-428 '63.   (MIRA 16:10)

(Phosphonic acid)   (Extraction (Chemistry))

AUTHOR: Laskorin, B. N.; Filippov, Ye. A.; Goncharenko, G. I.; Skvortsov, N. V.;
Skorovarov, D. I.

TITLE: Extraction of uranium (VI) from carbonate solutions by quaternary phosphonium and arsonium bases

TOPIC TAGS: uranium extraction, phosphonium base, arsonium base, hydroxyquinoline

ABSTRACT: To determine the effect of the concentration of carbonate ions and nature of the diluent on the extraction of uranium (VI), the authors tested phosphonium salts $[R_4P]^+Cl^-$ and arsonium salts $[R_4As]^+Cl^-$. The organic phase consisted of a 0.1 M solution of the quarternary base in chloroform or butyl ethyl ketone containing 7 vol. % n-octanol. 0.008 M aqueous solutions of uranium containing 0.1 M ammonium bicarbonate and 0.1-1.0 M sodium carbonate were employed. The extraction was carried out by vigorously shaking the combined aqueous and organic phases. It was found that the arsonium and phosphonium compounds have practically the same extractive properties, but the addition of 8-hydroxyquinoline causes the distribution ratio to be much higher in the case of the arsonium compounds. It is concluded that the extraction of uranium (VI) from carbonate

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L 63622-65

ACCESSION NR: AP5017002

media by the phosphonium and arsonium compounds is rather ineffective owing to a decrease in the distribution coefficient caused by an appreciable solubility of the complex in the aqueous phase; however, the addition of 8-hydroxyquinoline raises the distribution ratio because of the formation of the complex $[UO_2(C_9H_6ON)_3]^-$, which has no affinity for water. "The phosphonium and arsonium bases were synthesized by G. Kh. Kamay and co-workers." Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: None

SUBMITTED: 23Dec63   ENCL: 00   SUB CODE: IC

NO REF SOV: 000   OTHER: 007

Card 2/2

Effect of temperature and sulfur dioxide gas on Bruchus pisi, a parasite of peas. M. Skurnyarov. *Mukomol'e* 12, No. 6, 47-8(1937); *Chimie & industrie* 40, 997. —Peas cannot be completely rid of *Bruchus pisi* either by drying or by treatment with SO_2. The degree of contamination of the peas can be lowered, however, by drying; and when they are dry they can be heated to 50° by means of a heat vehicle at a temp. of 110-20°, without splitting; when heated with steam, on the other hand, the peas split in half.   A. Papineau-Couture

SKOROVAROV,M., inzhener

For early drying of moist grain delivered for seed and for food.
Muk.-elev.prom.21 no.9:4-5 S'55.   (MIRA 8:12)

1. Ministerstvo zagotovok
                    (Grain--Drying)

SKOROVAROV, M., inzhener; ZHOGOLEV, Ye., inzhener.

Experimental mobile grain dryer installed in a railroad car.
Muk.-elev.prom. 21 no.12:13-15 D '55.   (MLRA 9:4)
            (Grain--Drying)

SKOROVAROV, Mikhail Antonovich; KEYZER, V.A., redaktor; GOLUBKOVA,
L.A.,tekhnicheskiy redaktor

[The operation of grain dryers; a manual for grain drying foreman]
Ekspluatatsiia zernosushilok; posobie dlia masterov zernosusheniia.
Moskva, Izd-vo tekhn. i ekon. lit-ry po voprosam mukomol'no-
krupianoi, kombikormovoi promyshl. i elevatorno-skladskogo
khoziaistva-Khleboizdat, 1956. 165 p.   (MLRA 10:4)
        (Grain--Drying)

SKOROVAROV, M.A., inzhener.

What hinders inventing in the Ministry of the Bread-Baking Industry?
Izobr. v SSSR 1 no.6:37-38 D '56.   (MIRA 10:4)
        (Inventions)   (Baking)

SKOROVAROV, M., inzhener.

Making efficient use of grain drying equipment. Muk.-elev. prom.
22 no.8:3-5 Ag '56.   (MIRA 10:8)

1. Tekhnicheskiy otdel Ministerstva khleboproduktov SSSR.
                        (Grain drying)